BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

```
Welcome to STN International!  Enter x:x

LOGINID:SSSPTA1648BQL

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1           Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2  Apr 08   "Ask CAS" for self-help around the clock
 NEWS  3  Apr 09   BEILSTEIN: Reload and Implementation of a New Subject Area
 NEWS  4  Apr 09   ZDB will be removed from STN
 NEWS  5  Apr 19   US Patent Applications available in IFICDB, IFIPAT, and
IFIUDB
 NEWS  6  Apr 22   Records from IP.com available in CAPLUS, HCAPLUS, and
ZCAPLUS
 NEWS  7  Apr 22   BIOSIS Gene Names now available in TOXCENTER
 NEWS  8  Apr 22   Federal Research in Progress (FEDRIP) now available
 NEWS  9  Jun 03   New e-mail delivery for search results now available
 NEWS 10  Jun 10   MEDLINE Reload
 NEWS 11  Jun 10   PCTFULL has been reloaded
 NEWS 12  Jul 02   FOREGE no longer contains STANDARDS file segment
 NEWS 13  Jul 22   USAN to be reloaded July 28, 2002;
                   saved answer sets no longer valid
 NEWS 14  Jul 29   Enhanced polymer searching in REGISTRY
 NEWS 15  Jul 30   NETFIRST to be removed from STN
 NEWS 16  Aug 08   CANCERLIT reload
 NEWS 17  Aug 08   PHARMAMarketLetter(PHARMAML) - new on STN
 NEWS 18  Aug 08   NTIS has been reloaded and enhanced
 NEWS 19  Aug 19   Aquatic Toxicity Information Retrieval (AQUIRE)
                   now available on STN
 NEWS 20  Aug 19   IFIPAT, IFICDB, and IFIUDB have been reloaded
 NEWS 21  Aug 19   The MEDLINE file segment of TOXCENTER has been reloaded
 NEWS 22  Aug 26   Sequence searching in REGISTRY enhanced
 NEWS 23  Sep 03   JAPIO has been reloaded and enhanced
 NEWS 24  Sep 16   Experimental properties added to the REGISTRY file
 NEWS 25  Sep 16   CA Section Thesaurus available in CAPLUS and CA
 NEWS 26  Oct 01   CASREACT Enriched with Reactions from 1907 to 1985
 NEWS 27  Oct 21   EVENTLINE has been reloaded
 NEWS 28  Oct 24   BEILSTEIN adds new search fields
 NEWS 29  Oct 24   Nutraceuticals International (NUTRACEUT) now available on
STN
 NEWS 30  Oct 25   MEDLINE SDI run of October 8, 2002
 NEWS 31  Nov 18   DKILIT has been renamed APOLLIT
 NEWS 32  Nov 25   More calculated properties added to REGISTRY
 NEWS 33  Dec 02   TIBKAT will be removed from STN
 NEWS 34  Dec 04   CSA files on STN
 NEWS 35  Dec 17   PCTFULL now covers WP/PCT Applications from 1978 to date
 NEWS 36  Dec 17   TOXCENTER enhanced with additional content
 NEWS 37  Dec 17   Adis Clinical Trials Insight now available on STN
 NEWS 38  Dec 30   ISMEC no longer available
 NEWS 39  Jan 21   NUTRACEUT offering one free connect hour in February 2003
 NEWS 40  Jan 21   PHARMAML offering one free connect hour in February 2003
 NEWS 41  Jan 29   Simultaneous left and right truncation added to COMPENDEX,
                   ENERGY, INSPEC
```

```
NEWS 42   Feb 13  CANCERLIT is no longer being updated
NEWS 43   Feb 24  METADEX enhancements
NEWS 44   Feb 24  PCTGEN now available on STN
NEWS 45   Feb 24  TEMA now available on STN
NEWS 46   Feb 26  NTIS now allows simultaneous left and right truncation
NEWS 47   Feb 26  PCTFULL now contains images
NEWS 48   Mar 04  SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 49   Mar 19  APOLLIT offering free connect time in April 2003
NEWS 50   Mar 20  EVENTLINE will be removed from STN
NEWS 51   Mar 24  PATDPAFULL now available on STN
NEWS 52   Mar 24  Additional information for trade-named substances without
                  structures available in REGISTRY
NEWS 53   Mar 24  Indexing from 1957 to 1966 added to records in CA/CAPLUS

NEWS EXPRESS  January 6 CURRENT WINDOWS VERSION IS V6.01a,
              CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
              AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
NEWS HOURS    STN Operating Hours Plus Help Desk Availability
NEWS INTER    General Internet Information
NEWS LOGIN    Welcome Banner and News Items
NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
NEWS WWW      CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN Customer
  agreement.  Please note that this agreement limits use to scientific
  research.  Use for software development or design or implementation
  of commercial gateways or other similar uses is prohibited and may
  result in loss of user privileges and other penalties.

  * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * *


FILE 'HOME' ENTERED AT 13:01:41 ON 28 MAR 2003

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'CAPLUS' ENTERED AT 13:01:54 ON 28 MAR 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)
```

```
FILE COVERS 1907 - 28 Mar 2003  VOL 138 ISS 14
FILE LAST UPDATED: 27 Mar 2003  (20030327/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> fusion (w) protein
         212444 FUSION
           7914 FUSIONS
         216744 FUSION
                  (FUSION OR FUSIONS)
        1493889 PROTEIN
        1006275 PROTEINS
        1726762 PROTEIN
                  (PROTEIN OR PROTEINS)
L1        32356 FUSION (W) PROTEIN

=> HSP (s) L1
          11481 HSP
           1638 HSPS
          11816 HSP
                  (HSP OR HSPS)
L2           60 HSP (S) L1

=> antigen (s) L2
         232820 ANTIGEN
         184663 ANTIGENS
         288308 ANTIGEN
                  (ANTIGEN OR ANTIGENS)
L3           11 ANTIGEN (S) L2

=> viral or virus (l) L3
         117445 VIRAL
              6 VIRALS
         117450 VIRAL
                  (VIRAL OR VIRALS)
         279483 VIRUS
          58360 VIRUSES
         289451 VIRUS
                  (VIRUS OR VIRUSES)
              2 VIRUS (L) L3
L4       117450 VIRAL OR VIRUS (L) L3

=> " viral antigen" and L2
         117445 "VIRAL"
              6 "VIRALS"
         117450 "VIRAL"
                  ("VIRAL" OR "VIRALS")
         232820 "ANTIGEN"
         184663 "ANTIGENS"
         288308 "ANTIGEN"
                  ("ANTIGEN" OR "ANTIGENS")
           2967 " VIRAL ANTIGEN"
                  ("VIRAL"(W)"ANTIGEN")
L5            1 " VIRAL ANTIGEN" AND L2

=> epitope (l) L2
          30778 EPITOPE
          30100 EPITOPES
```

```
         45968 EPITOPE
                 (EPITOPE OR EPITOPES)
L6           4 EPITOPE (L) L2

=> " supermotif" and L2
             37 "SUPERMOTIF"
             20 "SUPERMOTIFS"
             47 " SUPERMOTIF"
                 ("SUPERMOTIF" OR "SUPERMOTIFS")
L7           0 " SUPERMOTIF" AND L2

=> "allele specific peptide motif"
          43836 "ALLELE"
          38843 "ALLELES"
          63896 "ALLELE"
                 ("ALLELE" OR "ALLELES")
        1120258 "SPECIFIC"
           1001 "SPECIFICS"
        1121159 "SPECIFIC"
                 ("SPECIFIC" OR "SPECIFICS")
         248355 "SP"
           5085 "SPS"
         253212 "SP"
                 ("SP" OR "SPS")
        1342565 "SPECIFIC"
                 ("SPECIFIC" OR "SP")
         288164 "PEPTIDE"
         208856 "PEPTIDES"
         367595 "PEPTIDE"
                 ("PEPTIDE" OR "PEPTIDES")
          34134 "MOTIF"
          55605 "MOTIFS"
          77419 "MOTIF"
                 ("MOTIF" OR "MOTIFS")
L8          15 "ALLELE SPECIFIC PEPTIDE MOTIF"
                 ("ALLELE"(W)"SPECIFIC"(W)"PEPTIDE"(W)"MOTIF")

=> L2 and L8
L9           0 L2 AND L8

=> "virus peptide" and L2
         279483 "VIRUS"
          58360 "VIRUSES"
         289451 "VIRUS"
                 ("VIRUS" OR "VIRUSES")
         288164 "PEPTIDE"
         208856 "PEPTIDES"
         367595 "PEPTIDE"
                 ("PEPTIDE" OR "PEPTIDES")
           1081 "VIRUS PEPTIDE"
                 ("VIRUS"(W)"PEPTIDE")
L10          0 "VIRUS PEPTIDE" AND L2

=> "viral epitope" and L2
         117445 "VIRAL"
              6 "VIRALS"
         117450 "VIRAL"
                 ("VIRAL" OR "VIRALS")
          30778 "EPITOPE"
          30100 "EPITOPES"
```

```
         45968 "EPITOPE"
                 ("EPITOPE" OR "EPITOPES")
           292 "VIRAL EPITOPE"
                 ("VIRAL"(W)"EPITOPE")
L11          1 "VIRAL EPITOPE" AND L2

=> DIS L11 1 IBIB ABS
THE ESTIMATED COST FOR THIS REQUEST IS 2.42 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:Y

L11  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:        2002:571225  CAPLUS
DOCUMENT NUMBER:         137:153567
TITLE:                   Priming biologically active antibody responses
against
                         an isolated, conformational viral
                         epitope by DNA vaccination
AUTHOR(S):               Riedl, Petra; El Kholy, Shereen; Reimann, Jorg;
                         Schirmbeck, Reinhold
CORPORATE SOURCE:        Institute of Medical Microbiology and Immunology,
                         University of Ulm, Ulm, D-89081, Germany
SOURCE:                  Journal of Immunology (2002), 169(3), 1251-1260
                         CODEN: JOIMA3; ISSN: 0022-1767
PUBLISHER:               American Association of Immunologists
DOCUMENT TYPE:           Journal
LANGUAGE:                English
AB   The immunodominant, conformational "a" determinant of hepatitis B surface
     Ag (HBsAg) elicits Ab responses.  The authors selectively expressed the
     Ab-binding, glycosylated, native a determinant (residue 120-147) of HBsAg
     is a fusion protein contg. C-terminally the HBsAg
     fragment SII (residue 80-180) fused to a SV40 T-Ag-derived hsp73-binding
     77 aa (T77) or non-hsp-binding 60 aa (T60) N terminus.  A DNA
     vaccine encoding non-hsp-binding secreted T60-SII fusion
     protein-stimulated murine Ab responses with a similar efficacy as
     a DNA vaccine encoding the secreted, native, small HBsAg.  A DNA vaccine
     encoding hsp73-binding, intracellular T77-SII fusion protein-stimulated
     murine Ab responses less efficiently but comparable to a DNA vaccine
     encoding the intracellular, native, large HBsAg.  HBsAg-specific Abs
     elicited by either the T60-SII-expressing or the T77-SII-expressing DNA
     vaccine suppressed HBsAg antigenemia in transgenic mice that produce
HBsAg
     from a transgene in the liver; hence, a biol. active B cell response
     cross-reacting with the native, viral envelope epitope was primed by both
     DNA vaccine constructs.  HBsAg-specific Ab and CTL responses were
coprimed
     when an S20-50 fragment (contg. the immunodominant, Ld-binding epitope
     S28-39) of HBsAg was fused C-terminally to the pCI/T77-SII sequence
     (pCI/T77-SII-Ld DNA vaccine).  Chimeric, polyepitope DNA vaccines
encoding
     conformational, Ab-binding epitopes and MHC class I-binding epitopes can
     thus efficiently deliver antigenic information to different compartments
     of the immune system in an immunogenic way.
REFERENCE COUNT:         51    THERE ARE 51 CITED REFERENCES AVAILABLE FOR
THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT


=> DIS L8 1- TI
YOU HAVE REQUESTED DATA FROM 15 ANSWERS - CONTINUE? Y/(N):N
```

=> DIS L8 1- IBIB ABS
YOU HAVE REQUESTED DATA FROM 15 ANSWERS - CONTINUE? Y/(N):Y
THE ESTIMATED COST FOR THIS REQUEST IS 36.23 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:Y

L8 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:359829 CAPLUS
DOCUMENT NUMBER: 134:365698
TITLE: Immune response-eliciting methods and compositions using a heat shock protein and a bovine herpesvirus 1 epitope for protection against bovine herpesvirus 1
INVENTOR(S): Srikumaran, Subramaniam; Navaratnam, Manjula
PATENT ASSIGNEE(S): The Board of Regents of the University of Nebraska, USA
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001034184	A2	20010517	WO 2000-US30359	20001103
WO 2001034184	A3	20020307		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-163725P P 19991105
AB Methods and compns. are provided for eliciting an immune response against bovine herpesvirus 1 epitopes. The methods comprise combining at least one heat shock protein with at least one bovine herpesvirus 1 epitope to form a purified epitope/heat shock protein complex and administration of an immune system-stimulating amt. of the purified epitope/heat shock protein complex. The compns. comprise a purified epitope/heat shock protein complex comprising at least one bovine herpesvirus 1 epitope complexed with at least one heat shock protein, and a pharmaceutically acceptable carrier, diluent or excipient.

L8 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:6099 CAPLUS
DOCUMENT NUMBER: 132:292278
TITLE: **Allele specific peptide motifs** of HLA molecules
AUTHOR(S): Rammensee, H. G.
CORPORATE SOURCE: Interfakultares Institut fur Zellbiologie, Eberhard-Karls-Universitat Tubingen, Tubingen, 72076, Germany
SOURCE: HLA: Genetic Diversity of HLA Functional and Medical Implication, [Proceedings of the International Histocompatibility Workshop and Conference], 12th, Saint-Malo and Paris, France, 1996 (1997), Meeting Date 1996, Volume 2, 35-38. Editor(s): Charron,

Dominique. EDK, Medical and Scientific International
Publisher: Sevres, Fr.
CODEN: 68MRA5
DOCUMENT TYPE: Conference; General Review
LANGUAGE: English
AB A review and discussion with 12 refs. The characteristics shared by most of the peptides presented by a particular HLA mol. (allelic product) are summarized as a motif. HLA class I and HLA class II motifs for the various alleles were compiled and presented, and the structures are described.
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L8 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:414573 CAPLUS
DOCUMENT NUMBER: 131:198304
TITLE: Bovine lymphocyte antigen-A11-specific peptide motif as a means to identify cytotoxic T-lymphocyte epitopes
of bovine herpesvirus 1
AUTHOR(S): Hegde, Nagendra R.; Deshpande, Muralidhar S.; Godson, Dale L.; Babiuk, Lorne A.; Srikumaran, S.
CORPORATE SOURCE: Department of Veterinary and Biomedical Sciences, University of Nebraska-Lincoln, Lincoln, NE, USA
SOURCE: Viral Immunology (1999), 12(2), 149-161
CODEN: VIIMET; ISSN: 0882-8245
PUBLISHER: Mary Ann Liebert, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Major histocompatibility complex (MHC) class I mols. present 8-10-mer viral peptides to antiviral cytotoxic T lymphocytes (CTLs). Identification of the **allele-specific peptide motifs** (ASPMs) of class I mols. enables the prediction of potential CTL epitopes of a virus from its protein sequences. Based on the bovine herpesvirus 1 (BHV-1) protein sequences that conform to the BoLA-A11 ASPM that the authors identified previously, potential CTL epitopes of BHV-1 were synthesized for use in cytotoxicity assays with CTLs from BHV-1-immunized calves. A peptide binding assay used to select the peptides that are most likely to be CTL epitopes categorized the peptides into groups of high, intermediate, and low binding capacity. Synthetic peptides stimulated lymphocytes from BHV-1-immunized calves to secrete interferon-.gamma.. Groups of peptides from the major glycoproteins of BHV-1 restimulated CTLs in vitro and sensitized targets for lysis by restimulated bulk CTLs.
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L8 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:164423 CAPLUS
DOCUMENT NUMBER: 131:3958
TITLE: Identification of murine cytotoxic T-lymphocyte epitopes of bovine herpesvirus 1
AUTHOR(S): Zatechka, Douglas S., Jr.; Hegde, Nagendra R.; Hariharan, Kandasamy; Srikumaran, S.
CORPORATE SOURCE: Department of Veterinary and Biomedical Sciences, University of Nebraska-Lincoln, Lincoln, NE,

68583-0905, USA
SOURCE: Vaccine (1999), 17(7-8), 686-694
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Major histocompatibility complex (MHC) class I mols. present endogenously derived viral peptides to CD8+ cytotoxic T-lymphocytes (CTLs). The objective of this study was to identify the H-2Dd- and H-2Kd-restricted CTL epitopes of bovine herpesvirus 1 (BHV-1), based on the **allele -specific peptide motifs** (ASPMs) of the above class I mols. Nine sequences conforming to the H-2Dd and H-2Kd ASPMs were identified on BHV-1 proteins, and the resp. peptides were synthesized. Five of these peptides exhibited moderate to strong binding to the Dd mol. CTLs generated by BALB/c mice immunized with BHV-1 proteins emulsified in a suitable adjuvant effectively lysed peptide-pulsed syngeneic targets, indicating that these epitopes were generated in vivo. Mice immunized with these peptides emulsified in a suitable adjuvant also developed anti-BHV-1 CTLs. These CTLs identified three veritable CTL epitopes among the "potential epitopes" synthesized based on the ASPMs. The elucidation of the CTL epitopes of BHV-1 should aid in the development of efficacious vaccines against this virus.
REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L8 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:581538 CAPLUS
DOCUMENT NUMBER: 127:261592
TITLE: Frequency of HLA **allele-specific peptide motifs** in HIV-1 proteins correlates with the allele's association with relative rates of disease progression after HIV-1 infection
AUTHOR(S): Nelson, George W.; Kaslow, Richard; Mann, Dean L.
CORPORATE SOURCE: Lab. Viral Carcinogenesis, Frederick Cancer Res. and Dev. Center, National Cancer Inst., Frederick, MD, 21702-1201, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1997), 94(18), 9802-9807
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An HLA allele-specific cytotoxic T lymphocyte response is thought to influence the rate of disease progression in HIV-1-infected individuals. In a prior study of 139 HIV-1-infected homosexual men, we identified HLA class I alleles and obsd. an assocn. of specific alleles with different relative hazards for progression to AIDS. Seeking an explanation for this assocn., we searched HIV-1 protein sequences to det. the no. of peptides matching motifs defined by combinations of specific amino acids reported to bind 16 class I alleles. Analyzing complete sequences of 12 clade B HIV isolates, we detd. the no. of allele motifs that were conserved (occurring in all 12 isolates) and nonconserved (occurring in only one isolate), as well as the av. no. of allele motifs per isolate. We found significant correlations with an allele's assocn. with disease progression

for counts of conserved motifs in gag (R = 0.73), pol (R = 0.58), gp120 (R = 0.78), and total viral protein sequences (R = 0.67) and also for counts of nonconserved motifs in gag (R = 0.62), pol (R = 0.74), gp41 (R = 0.52), and total viral protein (R = 0.71). We also found significant correlations for the av. no. of motifs per isolate for gag, pol, gp120, and total viral protein. This study provides a plausible functional explanation for the obsd. assocn. of different HLA alleles with variable rates of disease progression.

L8 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:454351 CAPLUS
DOCUMENT NUMBER: 127:175108
TITLE: The use of bovine MHC class I **allele-specific peptide motifs** and proteolytic cleavage specificities for the prediction of potential cytotoxic T lymphocyte epitopes of bovine viral diarrhea virus
AUTHOR(S): Hegde, Nagendra R.; Srikumaran, Subramaniam
CORPORATE SOURCE: Department Veterinary Biomedical Sciences, University Nebraska-Lincoln, Lincoln, NE, 68583-0905, USA
SOURCE: Virus Genes (1997), 14(2), 111-121
CODEN: VIGEET; ISSN: 0920-8569
PUBLISHER: Kluwer
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cell mediated immunity (CMI) is crucial for the defense against viruses. Cytotoxic T lymphocytes (CTLs) play a major role in CMI. They recognize endogenous antigenic peptides presented by antigen presenting cells in assocn. with the major histocompatibility complex (MHC) class I mols. The elucidation of the sequence of CTL epitopes of viruses should help in designing better vaccines. In this study, we have identified candidate epitopes restricted by five bovine MHC class I mols. that are potentially available for presentation to CTLs. The candidate peptide epitopes were identified by using the computer programs available as a part of the Genetics Computer Group package and applying the information on **allele-specific peptide motifs** and intracellular enzymic cleavage patterns to the bovine viral diarrhea virus polyprotein. Several candidate peptides were found for each of the bovine lymphocyte antigens (BoLA)-A11, -A20, -HD1, and -HD6 whereas no peptide was found for BoLA-HD7. Based on this finding, the probable contribution of genomic segments of BVDV to the CTL response and strategies for recombinant vaccines are discussed.

L8 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:72877 CAPLUS
DOCUMENT NUMBER: 126:143035
TITLE: Identification of potential CTL epitopes of bovine RSV using **allele-specific peptide motifs** from bovine MHC class I molecules
AUTHOR(S): Gaddum, R. M.; Ellis, S. A.; Willis, A. C.; Cook, R. S.; Staines, K. A.; Thomas, L. H.; Taylor, G.
CORPORATE SOURCE: Inst. Animal Health, Compton, Newbury, RG20 7NN, UK
SOURCE: Veterinary Immunology and Immunopathology (1996),

54(1-4), 211-219
CODEN: VIIMDS; ISSN: 0165-2427
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Respiratory syncytial virus (RSV) is a major cause of lower respiratory tract infection in young infants and housed calves. Depletion of CD8+ lymphocytes from calves inhibited their ability to clear the virus from the nasopharynx and lungs. To study these cells further, a cytotoxic T lymphocyte (CTL) assay was established. CTL could be demonstrated in the peripheral blood of gnotobiotic calves 7-10 days post infection (p.i.) with RSV and in lungs 10 days p.i. This response was both MHC-restricted and virus-specific. Following sepn. of the lung lymphocytes by magnetic activated cell sorting, it was shown that the cytolytic activity was mediated by cells of the CD8+ phenotype. To identify epitopes recognized by bovine CTL, the consensus motifs from MHC class I alleles were identified. CDNA libraries were constructed and screened for full length class I sequences. The isolated cDNA clones were then transfected into mouse P815 cells and the expressed product immunopptd. and matched with a serol. specificity. The bovine MHC class I mols. were isolated from lysed transfected cells by affinity chromatog., using a monoclonal antibody specific for bovine MHC class I, and bound peptides were sepd. by reverse-phase HPLC. Anal. of the protein sequences of bovine RSV for the defined motifs has identified potential CTL epitopes.

L8 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:759606 CAPLUS
DOCUMENT NUMBER: 126:58565
TITLE: Prediction of potential cytotoxic T lymphocyte epitopes of bovine herpesvirus 1 based on **allele-specific peptide motifs** and proteolytic cleavage specificities
AUTHOR(S): Hegde, Nagendra R.; Sirkumaran, Subramaniam
CORPORATE SOURCE: Dep. Veterinary and Biomed. Sci., Univ. Nebraska-Lincoln, Lincoln, NE, 68583-0905, USA
SOURCE: Virus Genes (1996), 13(2), 121-133
CODEN: VIGEET; ISSN: 0920-8569
PUBLISHER: Kluwer
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Major histocompatibility complex (MHC) class I mols. present endogenous peptides ot cytotoxic T lymphocytes (CTLs). Elucidation of CTL epitopes of intracellular pathogens helps in designing better vaccines to control economically important human and animal diseases. In this study, candidate epitopes that are potentially available for presentation to the CTLs via five bovine MHC class I mols. have been identified. This was accomplished by using the computer programs "Find-patterns" and "Petidestructure" of GCG package and applying the information on cleavage patterns of cytosolic and endoplasmic reticulum proteases and peptidases as well as MHC class I **allele-specific peptide motifs** on 23 bovine herpesvirus-1 (BHV-1) proteins available on protein sequence database. Several candidate peptides were found for each of the bovine lymphocyte antigens (BoLA)-A11, -A20, -HD1, and -HD6 whereas no peptide was found for BoLA-HD7. Majority of the candidate peptides were from the viral glycoproteins. The contribution of such studies towards the identification of CTL epitopes of BHV-1 and other intracellular pathogens is discussed.

L8 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:100037 CAPLUS
DOCUMENT NUMBER: 124:172666
TITLE: Prospects for T cell immunotherapy of tumors by vaccination with immunodominant and subdominant peptides
AUTHOR(S): Melief, Cornelis J. M.; Kast, W. Martin
CORPORATE SOURCE: Department of Immunohematology and Blood Bank, University Hospital Leiden, Leiden, 2300 RC, Neth.
SOURCE: Ciba Foundation Symposium (1994), 187, 97-112
CODEN: CIBSB4; ISSN: 0300-5208
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review, with 25 refs. Immunotherapy of tumors by adoptive transfer of cytotoxic T lymphocytes (CTL) is now feasible in exptl. murine systems. These CTL recognize peptide sequences of defined length presented by major histocompatibility complex (MHC) class I mols. Effective eradication of large tumor masses requires co-administration of interleukin 2. Tumor escape strategies are numerous but in various instances can be counteracted by defined measures. Initiation of CTL responses against poorly immunogenic virally induced tumors and other tumors requires novel strategies to overcome T cell inertia. The authors propose a strategy in which CTL are raised against target mols. of choice including differentiation antigens of restricted tissue distribution (autoantigens) or mutated/overexpressed oncogene products. The steps proposed include: (1) identification of target mols. of choice, (2) identification in these target mols. of peptides fitting MHC **allele-specific peptide motifs** involved in peptide binding to MHC mols., (3) evaluation of actual binding of such peptides to specific MHC class I mols., (4) in vitro CTL response induction by such peptides, presented by highly efficient antigen-presenting cells such as antigen processing-defective cells carrying empty MHC class I mols. loaded with a single peptide or dendritic cells (both types of cells are capable of primary CTL response induction in vitro), (5) evaluation of proper processing by the demonstration of tumor cell lysis by these CTL, and (6) adoptive transfer of tumor-specific CTL generated in vitro or vaccination with peptides. These various steps have now been taken for several viruses, virally induced tumors and other types of tumors and the first indications that this strategy is useful have been obtained.

L8 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:1000885 CAPLUS
DOCUMENT NUMBER: 124:49763
TITLE: New development of mass spectrometry for medicine and biology
AUTHOR(S): Sasazuki, Takehiko
CORPORATE SOURCE: Medical Institute of Bioregulation, Kyushu University, Japan
SOURCE: Nippon Iyo Masu Supekutoru Gakkai Koenshu (1995), 20, 3-6
CODEN: NIMKEN; ISSN: 0916-085X
PUBLISHER: Nippon Iyo Masu Supekutoru Gakkai
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
AB A review with 6 refs. Development of mass spectrometry allowed to investigated the complex of peptides in subpicomolar amt. of peptides. Using microcapillary electrospray ionization tandem mass spectrometry, we

investigated how single amino acid substitutions in HLA class I mols. affect differences in peptide repertoires. **Allele-specific peptide motifs** for each HLA mols. substantially differed each other in the dominant anchor residues. These results give the mol. basis for the different susceptibility of autoimmune diseases among these HLA phenotypes.

L8 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:933003 CAPLUS
DOCUMENT NUMBER: 123:336904
TITLE: Differences in MHC class I self peptide repertoires among HLA-A2 subtypes
AUTHOR(S): Sudo, Tohru; Kamikawaji, Nobuhiro; Kimura, Akinori; Date, Yukiji; Savoie, Chritopher J.; Nakashima, Hisashi; Furuichi, Emiko; Kuhara, Satoru; Sasazuki, Takehiko
CORPORATE SOURCE: Dep. Genet., Med. Inst. Bioregulation, Kyushu Univ., Fukuoka, 812, Japan
SOURCE: Journal of Immunology (1995), 155(10), 4749-56
CODEN: JOIMA3; ISSN: 0022-1767
PUBLISHER: American Association of Immunologists
DOCUMENT TYPE: Journal
LANGUAGE: English
AB To investigate how single amino acid substitutions in MHC class I mols. affect differences in peptide repertoires, we eluted and sequenced the naturally processed peptides from three HLA-A2 subtypes (HLA-A*0206, and -A*0207) that differ by a single amino acid residue substitution each with HLA-A*0201 at the floor of the binding groove. **Allele-specific peptide motifs** for each HLA-A2 subtype substantially differed from that of HLA-A*0201 in the dominant anchor residues. The relative signal intensities for 18 self peptides, detd. by mass spectrometry, precisely reflected these peptide motifs. Some overlapping peptides were isolated from both HLA-A*0201 and a single HLA-A2 variant, but no peptide was ubiquitously found across all variants.
To rationalize the differences in peptide motifs, possible conformations of each allele were computer modeled by energy minimization calcns. based on the reported crystal structure of HLA-A*0201. According to our models, the differences in peptide motifs could be explained by substituted-residue-driven conformational changes for each MHC-peptide complex. These results demonstrate the fine differences between HLA-A2 subtype self peptide repertoires and contribute to the prediction of antigenic peptides.

L8 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:864585 CAPLUS
DOCUMENT NUMBER: 123:336845
TITLE: Peptide motif of the cattle MHC class I antigen BoLA-A11
AUTHOR(S): Hegde, Nagendra R.; Ellis, Shirley A.; Gaddum, Ruth M.; Tregaskes, Clive A.; Sarath, Gautam; Srikumaran, Subramaniam
CORPORATE SOURCE: Dept. of Veterinary and Biomedical Sciences, University of Nebraska, Lincoln, NE, 68583-0905, USA
SOURCE: Immunogenetics (1995), 42(4), 302-3
CODEN: IMNGBK; ISSN: 0093-7711
PUBLISHER: Springer

DOCUMENT TYPE: Journal
LANGUAGE: English
AB Sequences for peptides bound to the bovine BoLA-A11 allelic product, are shown. The majority of the peptides that occupied the binding groove of BoLA-A11 were nonamers.

L8 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:344850 CAPLUS
DOCUMENT NUMBER: 122:130361
TITLE: Class I MHC-peptide interactions: structural requirements and functional implications
AUTHOR(S): Grey, Howard M.; Ruppert, Joerg; Vitiello, Antonella; Sidney, John; Kast, W Martin; Kubo, Ralph T.; Sette, Alessandro
CORPORATE SOURCE: Cytel, San Diego, CA, 92121, USA
SOURCE: Cancer Surveys (1995), 22, 37-49
CODEN: CASUD7; ISSN: 0261-2429
PUBLISHER: Cold Spring Harbor Laboratory Press
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 15 refs. discussing the definition of HLA-A allele specific motifs for HLA-A*0101, A*0301, A*1101, and A*2401, validation of HLA-A **allele specific peptide motifs**, efficiency of motifs in identifying MHC binding peptides, the role of secondary anchor residues in detg. peptide binding to MHC, and binding affinity for MHC and immunogenicity.

L8 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:480517 CAPLUS
DOCUMENT NUMBER: 121:80517
TITLE: Interaction of in vitro- and in vivo-generated cytotoxic T cells with SV40 T antigen: Analysis with synthetic peptides
AUTHOR(S): Alsheikhly, A. -R.
CORPORATE SOURCE: Dep. Immunol., Scripps Res. Inst., La Jolla, CA, USA
SOURCE: Scandinavian Journal of Immunology (1994), 39(5), 467-79
CODEN: SJIMAX; ISSN: 0300-9475
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Virus-specific cytotoxic T cells recognize antigens in the form of peptides (8 or 9 amino acids long) bound to MHC class-I mols. Exposure of unprimed murine splenocytes to synthetic peptides of viral antigens elicits primary CTL in vitro. The fine specificity of such CTL as well as the correlation between binding affinity of peptides to class-I mols. and CTL induction was analyzed using synthetic peptides corresponding to overlapping and distinct amino-acid residues in SV40 T antigen (Tag) Db-restricted T-cell epitopes I, II-III, and V. The peptides induced cross-reactive CD8+ primary CTL in splenocytes of naive C57 BL/6 mice. This reactivity was seen regardless of the peptides allelic anchor motifs or their abilities to stabilize empty class-I mols. However, none of the primary CTL and CTL lines lysed Tag-expressing cells. In contrast, CTL generated in vivo by immunizing mice with Tag-expressing cells recognized endogenously processed Tag as well as synthetic peptides. The peptides recognized by these CTL depended on the intracellular concn. of Tag antigen in the immunizing cells. The reactivity of these CTL was peptide specific as shown by a functional peptide competition assay. Moreover, three peptides bound to and were recognized in the context of both Kb and

Db mols. These results have revealed a flexible disposition of MHC class-I mols. with regard to peptide binding and also reflected lack of correlation between binding affinity to class-I mols. and the capacity of peptides to induce primary CTL or to serve as potential targets. The significance of these findings in relation to identifying major T-cell epitopes using **allele specific peptide motif** and in vitro maintained CTL clones is discussed.

L8 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:455448 CAPLUS
DOCUMENT NUMBER: 121:55448
TITLE: The flavivirus nonstructural protein NS3 is a dominant source of cytotoxic T cell peptide determinants
AUTHOR(S): Lobigs, Mario; Arthur, Christine E.; Mullbacher, Arno; Blanden, Robert V.
CORPORATE SOURCE: John Curtin Sch. Med. Res., Aust. Natl. Univ., Canberra, 2601, Australia
SOURCE: Virology (1994), 202(1), 195-201
CODEN: VIRLAX; ISSN: 0042-6822
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Vaccinia virus recombinants encoding regions of the Murray Valley encephalitis virus (MVE) genome, which together cover the entire viral coding region, were employed to identify the MVE protein which is the dominant source of CD8+, cytotoxic T cell antigenic determinant(s) presented by the mouse H-2Kk major histocompatibility antigen. MVE and West Nile virus-immune, H-2k-restricted, effector cells recognized peptides derived from the MVE nonstructural polyprotein segment, and in this region the immunodominant determinant mapped to protein NS3. Interestingly, mapping of cytotoxic T cell antigenic determinants of other flaviviruses also identified the NS3 protein as the dominant source of antigenic peptides (A. B. Hill, et al., 1992; A. L. Rothman, et al., 1993). Using an **allele-specific peptide motif** for H-2Kk, the authors predicted 12 peptides in the MVE NS3 protein as ligands for the restriction element and identified 3 peptides which were recognized in assocn. with H-2Kk by MVE-immune cytotoxic T cells. The authors also examd. the effect of proteolytic processing in the MVE nonstructural polyprotein segment mediated by the viral proteinase NS3 on antigen processing and presentation of the MVE H-2Kk-restricted T cell determinant. Processing of the MVE polyprotein by the viral proteinase did not markedly influence the availability of this peptide determinant.

=> DIS L6 1 IBIB ABS
THE ESTIMATED COST FOR THIS REQUEST IS 2.42 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:N
REQUEST CANCELED

=> DIS L6 1- IBIB ABS
YOU HAVE REQUESTED DATA FROM 4 ANSWERS - CONTINUE? Y/(N):Y
THE ESTIMATED COST FOR THIS REQUEST IS 9.66 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:Y

L6 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:84760 CAPLUS

TITLE: Selective Expression of Immunogenic, Virus-Like Particle-Derived Antibody-Binding Epitopes
AUTHOR(S): El Kholy, Shereen; Riedl, Petra; Kwissa, Marcin; Reimann, Joerg; Schirmbeck, Reinhold
CORPORATE SOURCE: Institute for Medical Microbiology and Immunology, University of Ulm, Ulm, Germany
SOURCE: Intervirology (2003), Volume Date 2002, 45(4-6), 251-259
CODEN: IVRYAK; ISSN: 0300-5526
PUBLISHER: S. Karger AG
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The incorporation of linear and conformational antibody-binding **epitopes** into polyepitope, chimeric antigens with satisfactory immunogenicity is a challenge. We selectively expressed antigen fragments encoding the linear e2 **epitope** (C79-149) of hepatitis B virus (pre)core antigen (HBc/eAg) and the conformational a' **epitope** (S80-180) of hepatitis B surface antigen (HBsAg) in a novel system. The domains were expressed as chimeric antigens contg. either heat shock protein (hsp)73-binding simian virus 40 large tumor antigen (e.g. T77) or non-hsp-binding (e.g. T60) sequences at their N-termini. We compared their type of expression with their immunogenicity for B cells (when delivered as a DNA vaccine). The type of expression investigated included their level of expression, the secretion or intracellular expression of the antigen and the stress protein (hsp)-assocd. vs. nonassocd. expression. The linear e2 **epitope** of HBc/eAg was efficiently expressed as an intracellular, hsp73-binding fusion protein, and efficiently primed an HBc/eAg-specific antibody response when delivered in this form. The conformational a' **epitope** of HBsAg most efficiently stimulated B cells as a secreted, non-**hsp**-assocd. **fusion protein**. These data demonstrate that different B cell-stimulating **epitopes** of vaccine-relevant viral antigens can be selectively isolated and expressed in suitable expression systems, but that the requirements that have to be fulfilled to obtain optimal immunogenicity differ strikingly between individual **epitopes**.

L6 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:571225 CAPLUS
DOCUMENT NUMBER: 137:153567
TITLE: Priming biologically active antibody responses against an isolated, conformational viral epitope by DNA vaccination
AUTHOR(S): Riedl, Petra; El Kholy, Shereen; Reimann, Jorg; Schirmbeck, Reinhold
CORPORATE SOURCE: Institute of Medical Microbiology and Immunology, University of Ulm, Ulm, D-89081, Germany
SOURCE: Journal of Immunology (2002), 169(3), 1251-1260
CODEN: JOIMA3; ISSN: 0022-1767
PUBLISHER: American Association of Immunologists
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The immunodominant, conformational "a" determinant of hepatitis B surface Ag (HBsAg) elicits Ab responses. The authors selectively expressed the Ab-binding, glycosylated, native a determinant (residue 120-147) of HBsAg is a **fusion protein** contg. C-terminally the HBsAg

fragment SII (residue 80-180) fused to a SV40 T-Ag-derived hsp73-binding 77 aa (T77) or non-**hsp**-binding 60 aa (T60) N terminus. A DNA vaccine encoding non-**hsp**-binding secreted T60-SII **fusion protein**-stimulated murine Ab responses with a similar efficacy as a DNA vaccine encoding the secreted, native, small HBsAg. A DNA vaccine encoding hsp73-binding, intracellular T77-SII fusion protein-stimulated murine Ab responses less efficiently but comparable to a DNA vaccine encoding the intracellular, native, large HBsAg. HBsAg-specific Abs elicited by either the T60-SII-expressing or the T77-SII-expressing DNA vaccine suppressed HBsAg antigenemia in transgenic mice that produce HBsAg from a transgene in the liver; hence, a biol. active B cell response cross-reacting with the native, viral envelope **epitope** was primed by both DNA vaccine constructs. HBsAg-specific Ab and CTL responses were coprimed when an S20-50 fragment (contg. the immunodominant, Ld-binding **epitope** S28-39) of HBsAg was fused C-terminally to the pCI/T77-SII sequence (pCI/T77-SII-Ld DNA vaccine). Chimeric, polyepitope DNA vaccines encoding conformational, Ab-binding **epitopes** and MHC class I-binding **epitopes** can thus efficiently deliver antigenic information to different compartments of the immune system in an immunogenic way.

REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:12529 CAPLUS
DOCUMENT NUMBER: 136:198529
TITLE: Noncovalent association with stress protein facilitates cross-priming of CD8+ T cells to tumor cell antigens by dendritic cells
AUTHOR(S): Kammerer, Robert; Stober, Detlef; Riedl, Petra; Oehninger, Claude; Schirmbeck, Reinhold; Reimann, Jorg
CORPORATE SOURCE: Department of Medical Microbiology, University of Ulm, Ulm, D-89081, Germany
SOURCE: Journal of Immunology (2002), 168(1), 108-117
CODEN: JOIMA3; ISSN: 0022-1767
PUBLISHER: American Association of Immunologists
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A viral oncogene carrying well-defined Kb/Db-restricted **epitopes** was expressed in a heat shock protein (hsp)-assocd. or nonassocd. form in the murine tumor cells P815 and Meth-A. Wild-type SV40 large T-Ag (wtT-Ag) is expressed without stable **hsp** assocn.; mutant (cytoplasmic cT-Ag) or chimeric (cT272-green fluorescent **fusion protein**) T-Ag is expressed in stable assocn. with the constitutively expressed, cytosolic hsp73 (hsc70) protein. In vitro, remnants from apoptotic wtT-Ag- or cT-Ag-expressing tumor cells are taken up and processed by immature dendritic cells (DC), and the Kb/Db-binding **epitopes** T1, T2/3, and T4 of the T-Ag are cross-presented to CTL in a TAP-independent way. DC pulsed with remnants of transfected, apoptotic tumor cells cross-presented the three T-Ag **epitopes** more efficiently when they processed ATP-sensitive hsp73/cT-Ag complexes than when they processed hsp-nonassocd. (native) T-Ag. In vivo, more IFN-.gamma.-producing CD8+ T cells were elicited by a DNA vaccine that encoded hsp73-binding mutant T-Ag than by a DNA vaccine that encoded

native, non-hsp-binding T-Ag. Three- to 5-fold higher nos. of T-Ag (T1-, T2/3-, or T4-) specific, Db/Kb-restricted IFN-.gamma.-producing CD8+ T cells were primed during the growth of transfected H-2d Meth-A/cT tumors than during the growth of transfected Meth-A/T tumors in F1(b .times. d) hosts. Hence, the assocn. of an oncogene with constitutively expressed, cytosolic hsp73 facilitates cross-priming in vitro and in vivo of CTL by DC that process material from apoptotic cells.

REFERENCE COUNT: 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L6 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:528615 CAPLUS
DOCUMENT NUMBER: 115:128615
TITLE: Cloning and sequence of the gene for heat shock protein 60 from Chlamydia trachomatis and immunological reactivity of the protein
AUTHOR(S): Cerrone, Michael C.; Ma, Jeffrey J.; Stephens, Richard S.
CORPORATE SOURCE: Dep. Pharm. Chem., Univ. California, San Francisco, CA, 94143-0412, USA
SOURCE: Infection and Immunity (1991), 59(1), 79-90
CODEN: INFIBR; ISSN: 0019-9567
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The gene for the chlamydial heat shock protein 60 (HSP-60) was isolated from a C. trachomatis genomic library and sequenced by mol. genetic methods. The DNA sequence derived revealed an operon-like gene structure with 2 open reading frames groES and groEL encoding an 11,122- and a 57,956-Da protein. The translated amino acid sequence of the larger open reading frame showed a high degree of homol. with known sequences for HSP-60 from several bacterial species as well as with plant and human sequences. By using the detd. nucleotide sequence, fragments of the gene were cloned into the plasmid vector pGEX for expression as **fusion proteins** consisting of glutathione S-transferase and peptide portions of the chlamydial **HSP**-60. HSP-60 antigenic identity was confirmed by an immunoblot with anti-HSP-60 rabbit serum. Sera from patients that exhibited both high antichlamydial titers and reactivity to chlamydial **HSP**-60 showed reactivity on immunoblots to 2 **fusion proteins** that represented portions of the carboxyl-terminal half of the mol., whereas **fusion proteins** defining the amino-terminal half were nonreactive. No reactivity with the **fusion proteins** was seen with sera from patients that had been previously screened as nonreactive to native chlamydial **HSP**-60 but which had high antichlamydial titers. Sera from noninfected control subjects also exhibited no reactivity. Definition of recognized HSP-60 **epitopes** may provide a predictive screen for those patients with C. trachomatis infections who may develop damaging sequelae, as well as providing tools for the study of immunopathogenic mechanisms of Chlamydia-induced disease.

=> DIS L5 1 IBIB ABS
THE ESTIMATED COST FOR THIS REQUEST IS 2.42 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:Y

L5 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:84760 CAPLUS
TITLE: Selective Expression of Immunogenic, Virus-Like Particle-Derived Antibody-Binding Epitopes
AUTHOR(S): El Kholy, Shereen; Riedl, Petra; Kwissa, Marcin; Reimann, Joerg; Schirmbeck, Reinhold
CORPORATE SOURCE: Institute for Medical Microbiology and Immunology, University of Ulm, Ulm, Germany
SOURCE: Intervirology (2003), Volume Date 2002, 45(4-6), 251-259
CODEN: IVRYAK; ISSN: 0300-5526
PUBLISHER: S. Karger AG
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The incorporation of linear and conformational antibody-binding epitopes into polyepitope, chimeric antigens with satisfactory immunogenicity is a challenge. We selectively expressed antigen fragments encoding the linear e2 epitope (C79-149) of hepatitis B virus (pre)core antigen (HBc/eAg) and the conformational a' epitope (S80-180) of hepatitis B surface antigen (HBsAg) in a novel system. The domains were expressed as chimeric antigens contg. either heat shock protein (hsp)73-binding simian virus 40 large tumor antigen (e.g. T77) or non-hsp-binding (e.g. T60) sequences at their N-termini. We compared their type of expression with their immunogenicity for B cells (when delivered as a DNA vaccine). The type of expression investigated included their level of expression, the secretion or intracellular expression of the antigen and the stress protein (hsp)-assocd. vs. nonassocd. expression. The linear e2 epitope of HBc/eAg was efficiently expressed as an intracellular, hsp73-binding fusion protein, and efficiently primed an HBc/eAg-specific antibody response when delivered in this form. The conformational a' epitope of HBsAg most efficiently stimulated B cells as a secreted, non-**hsp**-assocd. **fusion protein**. These data demonstrate that different B cell-stimulating epitopes of vaccine-relevant **viral antigens** can be selectively isolated and expressed in suitable expression systems, but that the requirements that have to be fulfilled to obtain optimal immunogenicity differ strikingly between individual epitopes.

=> DIS L3 1- IBIB ABS
YOU HAVE REQUESTED DATA FROM 11 ANSWERS - CONTINUE? Y/(N):Y
THE ESTIMATED COST FOR THIS REQUEST IS 26.57 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:Y

L3 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:736375 CAPLUS
DOCUMENT NUMBER: 137:261875
TITLE: Molecular vaccine linking antigen with an immunogenicity-potentiating polypeptide delivered as replication defective alphavirus replicons from stable packaging cells
INVENTOR(S): Wu, Tzyy-Choou; Hung, Chien-Fu
PATENT ASSIGNEE(S): Johns Hopkins University, USA
SOURCE: PCT Int. Appl., 93 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002074920	A2	20020926	WO 2002-US8033	20020318

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-276854P P 20010316

AB Superior mol. vaccines comprise nucleic acids in the form of PCL-generated replication-defective alphavirus replicons, preferably Sindbis virus, that encode a fusion polypeptide that includes an antigenic peptide or polypeptide against which an immune response is desired. Fused to the antigenic peptide is at least a second polypeptide that is an immunogenicity-potentiating polypeptide acting by any of a no. of mechanisms to promote immunogenicity of the antigen. Examples include intercellular spreading proteins, in particular a herpes virus protein VP22 or a homolog or functional deriv. thereof. Other examples are proteins that stimulate MHC class I processing of the antigen, target the antigen to APCs promote development and growth of immature DCs or stimulate DC antigen presenting activity. The nucleic acid can encode any antigenic epitope of interest, preferably an epitope that is processed and presented by MHC class I proteins. Antigens of pathogenic organisms and cells such as tumor cells are preferred. Vaccines comprising HPV-16 E7 oncoprotein are exemplified. Also disclosed are methods of using the vaccines to induce heightened T cell mediated immunity, in particular by cytotoxic T lymphocytes, leading to protection from or treatment of a tumor.

L3 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:716453 CAPLUS
DOCUMENT NUMBER: 137:246530
TITLE: Fusion proteins of Leishmania antigens and antigens of pathogens for diagnostic or vaccine use
INVENTOR(S): Skeiky, Yasir; Brannon, Mark; Guderian, Jeffrey
PATENT ASSIGNEE(S): Corixa Corporation, USA
SOURCE: PCT Int. Appl., 155 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2002072792 A2 20020919 WO 2002-US8223 20020313
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2001-275837P P 20010313
AB Fusion proteins of antigens of Leishmania and foreign antigens that may be useful in the diagnosis, prophylaxis or treatment of disease are described. The Leishmania antigen may be TSA (thiol-specific antioxidant), LeIF (initiation factor 4A), M15 or 6H. The invention also provides an expression cassette comprising the recombinant nucleic acid mol., host cells comprising the expression cassette, compns., fusion polypeptides, and methods of their use in diagnosis or in generating a protective immune response in hosts. The genes may be codon optimized for expression in a specific host. Specifically, fusion proteins with antigens of Mycobacterium tuberculosis are described. Construction of codon optimized genes for fusion proteins of Leishmania antigens and Mycobacterium tuberculosis antigens and their expression in HEK cells is demonstrated.

L3 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:615795 CAPLUS
DOCUMENT NUMBER: 137:184451
TITLE: Fusion proteins of hepatitis B core antigen and stress protein for immunotherapy against hepatitis B virus
INVENTOR(S): Mizzen, Lee; Liu, Hongwei; Siegel, Marvin
PATENT ASSIGNEE(S): Stressgen Biotechnologies Corp., Can.
SOURCE: PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002062959	A2	20020815	WO 2002-US3460	20020205
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002155434	A1	20021024	US 2002-68059	20020205

PRIORITY APPLN. INFO.: US 2001-266733P P 20010205
AB The invention relates to HBV antigen-contg. compns. that are useful in treating or preventing HBV infection. The content of the compns. can

vary, as described herein, but the compns. comprise a stress protein, or a portion (e.g., a fragment) or deriv. thereof, and an HBV antigen. The stress protein and HBV antigen is a fusion protein. The HBV antigen is HBV core antigen and the stress protein is Hsp10, Hsp40, Hsp60, Hsp70, Hsp90, Hsp100-200, Hsp20-30, hsp65, Lon, TF55, FKBPs, cyclophilin, ClpP, GrpE, ubiquitin, calnexin, protein disulfide isomerase, or small mol. wt. family of stress proteins.

L3 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:229395 CAPLUS
DOCUMENT NUMBER: 137:123660
TITLE: Immunotherapy of cancer using heat shock proteins
AUTHOR(S): Manjili, Masound H.; Wang, Xiang-Yang; Park, Juneui; Facciponte, John G.; Repasky, Elizabeth; Subjeck, John R.
CORPORATE SOURCE: Department of Molecular and Cellular Biophysics, Roswell Park Cancer Institute, Buffalo, NY, 14263, USA
SOURCE: Frontiers in Bioscience [online computer file] (2002), 7, D43-D52
CODEN: FRBIF6; ISSN: 1093-4715
URL: http://www.bioscience.org/2002/v7/d/manjili/pdf.pdf
PUBLISHER: Frontiers in Bioscience
DOCUMENT TYPE: Journal; General Review; (online computer file)
LANGUAGE: English
AB A review. Tumor derived heat shock protein (hsp)-peptide complexes (particularly hsp70 and grp94/gp96) have been demonstrated to serve as effective vaccines, producing antitumor immune responses in animals and in man. This approach utilizes the peptide binding properties of stress proteins which are responsible for their functions as mol. chaperones in numerous cellular processes. The present review briefly introduces the reader to the basic stress protein families, i.e. heat shock and glucose regulated proteins, their regulation, compartmentalization and family members. It then introduces the reader to aspects of hsps/grp function and interactions with the host's immune system. An overview of the conventional uses of hsp/grp vaccines as autologous vaccines derived from cancers is presented. We then discuss other stress protein related vaccination approaches. This includes the use of recombinant **antigens**, both proteins and peptides, naturally complexed to **hsp**/grps; **hsp**/grp DNA vaccines, **hsp**/grp **fusion proteins** and cell based **hsp**/grp vaccines. The advantages and disadvantages of each vaccination approach are discussed. Lastly, means of further enhancing the already potent activity of stress protein vaccines are presented, specifically the use of hyperthermia or CTLA-4 blockade as adjuvants.
REFERENCE COUNT: 92 THERE ARE 92 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:41632 CAPLUS
DOCUMENT NUMBER: 136:117361

TITLE: Stress proteins as immunomodulators and in vaccines as
fusion proteins with antigens
INVENTOR(S): Young, Richard A.
PATENT ASSIGNEE(S): Whitehead Institute for Biomedical Research, USA
SOURCE: U.S., 29 pp., Cont.-in-part of WO9429459.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6338952	B1	20020115	US 1994-336251	19941103
WO 8912455	A1	19891228	WO 1989-US2619	19890615
W: JP				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
WO 9429459	A1	19941222	WO 1994-US6362	19940606
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1221488	A1	20020710	EP 2001-203598	19940606
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
US 6335183	B1	20020101	US 1995-461722	19950605
US 6482614	B1	20021119	US 1999-468041	19991221

PRIORITY APPLN. INFO.:

US 1988-207298	B2	19880615
US 1989-366581	B1	19890615
WO 1989-US2619	A2	19890615
US 1991-804632	B2	19911209
US 1993-73381	B2	19930604
WO 1994-US6362	A2	19940606
EP 1994-919384	A3	19940606
US 1994-336251	B1	19941103
US 1995-461720	B1	19950605

AB The present invention relates to stress proteins and methods of modulating an individual's immune response. In particular, it relates to the use of such stress proteins in immune therapy and prophylaxis, which results in an induction or enhancement of an individual's immune response and as an immunotherapeutic agent which results in a decrease of an individual's immune response to his or her own cells. The present invention also relates to compns. comprising a stress protein joined to another component, such as a fusion protein in which a stress protein is fused to an antigen. Further, the present invention relates to a method of generating antibodies to a substance using a conjugate comprised of a stress protein joined to the substance.
REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:10293 CAPLUS
DOCUMENT NUMBER: 136:79727
TITLE: Human papilloma virus infection and wart treatment with chimeric heat shock protein
INVENTOR(S): Neefe, John; Goldstone, Stephen; Winnett, Mark; Siegel, Marvin
PATENT ASSIGNEE(S): Stessgen Biotechnologies Corp., Can.

SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002000242	A2	20020103	WO 2001-US20240	20010626
WO 2002000242	A3	20021003		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002110566	A1	20020815	US 2001-891823	20010626

PRIORITY APPLN. INFO.: US 2000-214202P P 20000626

AB Disclosed is a method of treating a wart in a subject by administering to the subject a compn. contg. (1) a heat shock protein or an immunostimulatory fragment thereof, and (2) a protein of a human papilloma virus or an antigenic fragment thereof. Also disclosed is a method of treating a human papilloma virus infection in a subject infected or suspected of being infected with a human papilloma virus of a first type by administering to the subject a compn. contg. (1) a heat shock protein or an antigenic fragment thereof, and (2) a protein of a human papilloma virus of a second type or an antigenic fragment thereof, where the first type and second type are different. Patients with anogenital warts were treated with Mycobacterium bovis BCG Hsp65 coupled to the E7 protein of HPV type 16.

L3 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:852282 CAPLUS
DOCUMENT NUMBER: 136:323509
TITLE: Immunotherapy of cancer using heat shock proteins
AUTHOR(S): Manjili, Masoud H.; Wang, Xiang-Yang; Park, Juneui; Facciponte, John G.; Repasky, Elizabeth A.; Subjeck, John R.
CORPORATE SOURCE: Department of Molecular and Cellular Biophysics, Roswell Park Cancer Institute, Buffalo, NY, 14263, USA
SOURCE: Frontiers in Bioscience [online computer file] (2001), 6, D1346-D1355
CODEN: FRBIF6; ISSN: 1093-4715
URL: http://www.bioscience.org/2001/v6/d/manjili/pdf.pdf
PUBLISHER: Frontiers in Bioscience
DOCUMENT TYPE: Journal; General Review; (online computer file)
LANGUAGE: English

AB A review. Tumor derived heat shock protein (hsp)-peptide complexes (particularly hsp70 and grp94/gp96) have been demonstrated to serve as effective vaccines, producing anti-tumor immune responses in animals and in man. This approach utilizes the peptide binding properties of stress proteins which are responsible for their functions as mol. chaperones in

numerous cellular processes. The present review briefly introduces the basic stress protein families, i.e. heat shock and glucose regulated proteins, their regulation, compartmentalization and family members. Aspects of hsps/grp function and interactions with the host's immune system are presented. An overview of the conventional uses of hsp/grp vaccines as autologous vaccines derived from cancers is given. Other stress protein related vaccination approaches are discussed. This includes the use of recombinant **antigens**, both proteins and peptides, naturally complexed to **hsp**/grps; **hsp**/grp DNA vaccine, **hsp**/grp **fusion proteins** and cell based **hsp**/grp vaccines. The advantages and disadvantages of each vaccination approach are discussed. Lastly, means of further enhancing the already potent activity of stress protein vaccine are presented, specifically the use of hyperthermia or CTLA-4 blockade as adjuvants.

REFERENCE COUNT: 92 THERE ARE 92 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L3 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:241520 CAPLUS
DOCUMENT NUMBER: 132:275165
TITLE: Methods of stabilizing fusion proteins by stimulating chaperone binding with N-terminal fragments of the large T antigen
INVENTOR(S): Reimann, Hansjorg; Schirmbeck, Reinhold
PATENT ASSIGNEE(S): Germany
SOURCE: PCT Int. Appl., 57 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000020606	A1	20000413	WO 1998-EP6298	19981002
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2344993	AA	20000413	CA 1998-2344993	19981002
AU 9896294	A1	20000426	AU 1998-96294	19981002
EP 1117803	A1	20010725	EP 1998-950105	19981002
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: WO 1998-EP6298 A 19981002

AB A method of stabilizing proteins manufd. in a transgenic host using long-term binding of a mol. chaperone is described. The protein is manufd. as a fusion protein with an N-terminal fragment of the large T antigen that includes the J domain. This stimulates the formation of a ppt. that can then be further purified. The present invention also relates to a vector comprising the polynucleotide of the invention, a host

cell comprising the polynucleotide or the vector of the invention, and a method for the prodn. of the fusion protein of the invention. Also described are methods for the prodn. of said first (poly)peptide, of a fusion protein/chaperone complex, and of an antibody directed against said first (poly)peptide, as well as a method of immunizing a subject with the polynucleotide, the vector, the fusion protein, said first (poly)peptide and/or said fusion protein/chaperone complex of the invention. In addn., the present invention relates to a kit and a diagnostic compn. comprising the polynucleotide, the vector, the host cell, the fusion protein, the first (poly)peptide, the fusion protein/chaperone complex and/or the antibody of the invention. The present invention, furthermore, relates to a method for the detection of the presence of an epitope comprised in a (poly)peptide. Addnl. described is a pharmaceutical compn. comprising the polynucleotide, the vector, the fusion protein, the first (poly)peptide, the antibody, and/or the complex of the present invention and, optionally, a pharmaceutically acceptable carrier and/or diluent, said pharmaceutical compn. being preferably a vaccine. Finally, the present invention relates to the use of the polynucleotide or the vector of the invention for the prodn. of an antibody directed against said first (poly)peptide, and the use of a (poly)peptide comprising an epitope detected by the method of the present invention or a complex produced by the method of the invention for the prodn. of an antibody. Studies of the expression of the large T. antigen gene in mouse cells found that levels of the antigen increased in cells when the N-terminal region was present and decreased when it was absent. The stable proteins were found to be binding the chaperonin hsp73 and deletion anal. indicated the importance of the J region. Use of a fusion protein of the N-terminal domain of the large T antigen (lacking the nuclear localization signal to prevent accumulation in the nucleus) to manuf. the unstable preS fragment of hepatitis B virus surface antigen is demonstrated. Vaccination of mice with the gene encoding the fusion protein raised antibodies to the large T antigen and its fusion partner.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:549169 CAPLUS
DOCUMENT NUMBER: 131:169282
TITLE: Modified heat shock protein-antigenic peptide complex
INVENTOR(S): Podack, Eckhard R.; Spielman, Julie; Yamazaki, Koichi
PATENT ASSIGNEE(S): University of Miami, USA
SOURCE: PCT Int. Appl., 139 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9942121	A1	19990826	WO 1999-US3561	19990219

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2321101	AA	19990826	CA 1999-2321101	19990219
AU 9927731	A1	19990906	AU 1999-27731	19990219
EP 1054683	A1	20001129	EP 1999-908252	19990219

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

JP 2002506005	T2	20020226	JP 2000-532135	19990219

PRIORITY APPLN. INFO.: US 1998-75358P P 19980220
WO 1999-US3561 W 19990219

AB The present invention relates to methods for purifying immunogenic, prophylactically and therapeutically effective complexes of modified heat shock proteins noncovalently assocd. with antigenic peptides of cancer or infected cells. The claimed methods comprise the constructing of a nucleotide sequence encoding a secretable modified heat shock protein, expressing the sequence in an appropriate host cell, recovering the immunogenic complexes from the cell culture and the cells, and purifying the immunogenic complexes by affinity chromatog. Large amts. of such immunogenic complexes can be obtained by large-scale culturing of host cells contg. the genetic sequence. The complexes can be used as a vaccine to elicit specific immune responses against cancer or infected cells, and to treat or prevent cancer or infectious diseases. Thus, modified gp96-IgG1 fusion protein was prepd. by mol. cloning, and protective effect of vaccination with cells expressing the modified fusion protein was tested.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:388603 CAPLUS
DOCUMENT NUMBER: 129:40131
TITLE: Vaccines for inducing cell-mediated cytolytic response comprising antigen and stress protein
INVENTOR(S): Mizzen, Lee; Anthony, Lawrence S. D.
PATENT ASSIGNEE(S): Stressgen Biotechnologies Corp., Can.; Mizzen, Lee; Anthony, Lawrence S. D.
SOURCE: PCT Int. Appl., 71 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9823735	A1	19980604	WO 1997-CA897	19971125

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ,

PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9851120	A1	19980622	AU 1998-51120	19971125
AU 736318	B2	20010726		
EP 941315	A1	19990915	EP 1997-945684	19971125
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001504702	T2	20010410	JP 1998-524081	19971125

PRIORITY APPLN. INFO.: US 1996-756621 A 19961126
WO 1997-CA897 W 19971125

AB The present invention relates to a vaccine for inducing an immune response to an antigen in a vertebrate (e.g., mammal) comprising an antigen and all or a portion of a stress protein or all or a portion of a protein having an amino acid sequence sufficiently homologous to the amino acid sequence of the stress protein to induce the immune response against the antigen. In a particular embodiment, the present invention relates to vaccines and compns. which induce a CTL response in a mammal comprising an antigen and all or a portion of a stress protein. In another embodiment, the invention relates to vaccines and compns. which induce an immune response to an influenza virus in a mammal comprising an antigen of the influenza virus and all or a portion of one or more stress proteins. The invention also relates to vaccines and compns. for inducing a CTL response to a tumor-assocd. antigen comprising a tumor-assocd. antigen and all or a portion of the stress protein. The invention also relates to vaccines and compn. for suppressing allergic immune responses to allergens comprising an allergen and all or a portion of a stress protein. Immunogens comprising influenza virus NP peptide and Mycobacterium hsp70, NP peptide-hsp70 conjugates and NP peptide-hsp70 fusion proteins were prepd. Mice immunized with these prepns. displayed a CTL response against cells exhibiting the NP peptide.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:480302 CAPLUS
DOCUMENT NUMBER: 122:263519
TITLE: Stress proteins as immunomodulators and in vaccines as fusion proteins with antigens
INVENTOR(S): Young, Richard A.
PATENT ASSIGNEE(S): Whitehead Institute for Biomedical Research, USA
SOURCE: PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9429459	A1	19941222	WO 1994-US6362	19940606
W: CA, JP				

RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
EP 700445 A1 19960313 EP 1994-919384 19940606
EP 700445 B1 20020123
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE
JP 08510756 T2 19961112 JP 1994-502024 19940606
AT 212378 E 20020215 AT 1994-919384 19940606
EP 1221488 A1 20020710 EP 2001-203598 19940606
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE
ES 2171454 T3 20020916 ES 1994-919384 19940606
US 6338952 B1 20020115 US 1994-336251 19941103
US 6335183 B1 20020101 US 1995-461722 19950605
US 6482614 B1 20021119 US 1999-468041 19991221
PRIORITY APPLN. INFO.: US 1993-73381 A 19930604
US 1988-207298 B2 19880615
US 1989-366581 B1 19890615
WO 1989-US2619 A2 19890615
US 1991-804632 B2 19911209
EP 1994-919384 A3 19940606
WO 1994-US6362 W 19940606
US 1994-336251 B1 19941103
US 1995-461720 B1 19950605

AB Stress proteins, e.g. from microbial pathogens, and methods of using them to modulate an individual's immune response are described. These proteins are major antigens for presentation to T-lymphocytes and so may be widely useful in vaccines (no data). In particular the use of such stress proteins in immune therapy and prophylaxis leading to an induction or increase of an individual's immune response and as an immunotherapeutic agent that results in a decrease of an individual's immune response to his own cells is described. Fusion proteins of stress proteins and antigens are also described for use in vaccines. Genes for antigens of pathogenic Mycobacteria (M. tuberculosis, M. leprae) were cloned by immune screening genomic banks in .lambda.gt11 with monoclonal antibodies to mycobacterial antigens. The sequences of the genes for six antigens from each microorganism recognized were compared to known sequences and strong similarities to known stress proteins (DnaK, GroEL, plant HSP) were obsd. A fusion protein of the gag p24 protein of HIV-1 and the hsp70 analog of M. tuberculosis was prepd. by expression of the corresponding chimeric gene in Escherichia coli. Mice were inoculated with the fusion protein, or the individual components, with a booster given three weeks later and serum tested for antibody to p24 three weeks after the booster. Serum from mice inoculated with the fusion protein showed a .apprx.500-fold greater titer of anti-p24 antibody than did serum from the control mice.

=> DIS L2 1- TI
YOU HAVE REQUESTED DATA FROM 60 ANSWERS - CONTINUE? Y/(N):Y
THE ESTIMATED COST FOR THIS REQUEST IS 18.27 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:Y

L2 ANSWER 1 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Deletion of exon 4 from human surfactant protein C results in aggresome formation and generation of a dominant negative

L2 ANSWER 2 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Selective Expression of Immunogenic, Virus-Like Particle-Derived Antibody-Binding Epitopes

L2 ANSWER 3 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Purification and immunologic activity analysis of fusion expression protein of urease B and heat-shock protein A in Helicobacter pylori

L2 ANSWER 4 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Molecular vaccine linking antigen with an immunogenicity-potentiating polypeptide delivered as replication defective alphavirus replicons from stable packaging cells

L2 ANSWER 5 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Fusion proteins of Leishmania antigens and antigens of pathogens for diagnostic or vaccine use

L2 ANSWER 6 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Fusion proteins of hepatitis B core antigen and stress protein for immunotherapy against hepatitis B virus

L2 ANSWER 7 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Removal of DnaK contamination during fusion protein purifications

L2 ANSWER 8 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Priming biologically active antibody responses against an isolated, conformational viral epitope by DNA vaccination

L2 ANSWER 9 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Fusion proteins comprising .beta.-amyloid peptide and heat shock protein for immunization treatments of Alzheimer's disease

L2 ANSWER 10 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Immunotherapy of cancer using heat shock proteins

L2 ANSWER 11 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Stress proteins as immunomodulators and in vaccines as fusion proteins with antigens

L2 ANSWER 12 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Noncovalent association with stress protein facilitates cross-priming of CD8+ T cells to tumor cell antigens by dendritic cells

L2 ANSWER 13 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Human papilloma virus infection and wart treatment with chimeric heat shock protein

L2 ANSWER 14 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Immunotherapy of cancer using heat shock proteins

L2 ANSWER 15 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Technology evaluation: HspE7, StressGen Biotechnologies Corp

L2 ANSWER 16 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Analysis of the adjuvant effect of recombinant Leishmania infantum Hsp83 protein as a tool for vaccination

L2 ANSWER 17 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Induction of a Th1-like response in vitro

L2 ANSWER 18 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Immunotherapy of a human papillomavirus type 16 E7-expressing tumor by administration of fusion protein comprised of Mycobacterium bovis BCG

Hsp65 and HPV16 E7

L2 ANSWER 19 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Conserved adhesin motif and methods of use thereof

L2 ANSWER 20 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Fusion protein for immunoprophyaxis and immunotherapy of venereal disease and cancer

L2 ANSWER 21 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Automated, computerized toxin screening/characterization system based on cell arrays and fluorescent reagents

L2 ANSWER 22 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Immunotherapy of a human papillomavirus (HPV) type 16 E7-expressing tumour
by administration of fusion protein comprising Mycobacterium bovis bacille
calmette-guerin (BCG) hsp65 and HPV16 E7

L2 ANSWER 23 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Protein preparations

L2 ANSWER 24 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Heat shock proteins in cancer therapy

L2 ANSWER 25 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Fusion proteins of ligand-binding domains and dimerization domains and their uses

L2 ANSWER 26 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI A proposed mechanism for the induction of cytotoxic T lymphocyte production by heat shock fusion proteins

L2 ANSWER 27 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Methods of stabilizing fusion proteins by stimulating chaperone binding with N-terminal fragments of the large T antigen

L2 ANSWER 28 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI In vivo cytotoxic T lymphocyte elicitation by mycobacterial heat shock protein 70 fusion proteins maps to a discrete domain and is CD4+ T cell independent

L2 ANSWER 29 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Preparation and usage of fusion proteins as bioluminescence resonance energy transfer (BRET) systems

L2 ANSWER 30 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Novel method for the identification of clones conferring a desired biological property from an expression library

L2 ANSWER 31 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Induction of secretion of interleukin-8 from human gastric epithelial cells by heat-shock protein 60 homologue of Helicobacter pylori

L2 ANSWER 32 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Modified heat shock protein-antigenic peptide complex

L2 ANSWER 33 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Association of Prokaryotic and Eukaryotic Chaperone Proteins with the

Human 1.alpha.,25-Dihydroxyvitamin D3 Receptor

L2 ANSWER 34 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI 20S proteasome, hsp90, p97 fusion protein, PA28 activator copurifying oligomers and ATPase activities

L2 ANSWER 35 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Immune responses against HPV antigens elicited by compositions comprising an HPV antigen and a stress protein or an expression vector capable of expression of these proteins

L2 ANSWER 36 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Intranuclear targeted delivery of functional NF-.kappa.B by 70 kDa heat shock protein

L2 ANSWER 37 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI GFP expression in Drosophila tissues: time requirements for formation of a fluorescent product

L2 ANSWER 38 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Vaccines for inducing cell-mediated cytolytic response comprising antigen and stress protein

L2 ANSWER 39 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Heat shock fusion proteins as vehicles for antigen delivery into the major histocompatibility complex class I presentation pathway

L2 ANSWER 40 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Functional importance of heat shock protein 90 associated with insulin receptor on insulin-stimulated mitogenesis

L2 ANSWER 41 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Recombinant expression of fusion proteins comprising heterologous protein fusion with coiled-coil heterodimer subunit protein for heterologous protein affinity purification

L2 ANSWER 42 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Identification and characterization of a constitutive HSP75 in sea urchin embryos

L2 ANSWER 43 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Targeting of active rat .alpha.2,3-sialyltransferase to the yeast cell wall by the aid of the hsp 150.DELTA.-carrier: toward synthesis of sLex-decorated L-selectin ligands

L2 ANSWER 44 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Human and rodent expression pattern of a fusion gene isolated from an MCF7 cDNA library

L2 ANSWER 45 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Protein misfolding and inclusion body formation in recombinant Escherichia coli cells overexpressing heat-shock proteins

L2 ANSWER 46 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Adjuvant-free hsp70 fusion protein system elicits humoral and cellular immune responses to HIV-1 p24

L2 ANSWER 47 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Cloning and characterization of a cDNA encoding an 18.0-kDa class-I low-molecular-weight heat-shock protein from rice

L2 ANSWER 48 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Derepression of the activity of genetically engineered heat shock factor causes constitutive synthesis of heat shock proteins and increased thermotolerance in transgenic Arabidopsis

L2 ANSWER 49 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI A recombinant rice 16.9-kDa heat shock protein can provide thermoprotection in vitro

L2 ANSWER 50 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Stress proteins as immunomodulators and in vaccines as fusion proteins with antigens

L2 ANSWER 51 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI The role of the carrier protein and disulfide formation in the folding of .beta.-lactamase fusion proteins in the endoplasmic reticulum of yeast

L2 ANSWER 52 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Conjugates formed from heat-shock proteins and oligo- or polysaccharides for vaccine against bacterial infection

L2 ANSWER 53 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Purification and characterization of the trefoil peptide human spasmolytic polypeptide (hSP) produced in yeast

L2 ANSWER 54 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Evidence that the hormone binding domain of steroid receptors confers hormonal control on chimeric proteins by determining their hormone-regulated binding to heat-shock protein 90

L2 ANSWER 55 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Expression of a conserved family of cytoplasmic low-molecular-weight heat shock proteins during heat stress and recovery

L2 ANSWER 56 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Cloning and sequence of the gene for heat shock protein 60 from Chlamydia trachomatis and immunological reactivity of the protein

L2 ANSWER 57 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Refolding of recombinant fusion proteins by the biocatalytic method to restore biological activity

L2 ANSWER 58 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI Process for correct biocatalytic chain folding of denatured recombinant fusion proteins

L2 ANSWER 59 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI A kinetic analysis of the effects of interleukin-2 diphtheria toxin fusion protein upon activated T cells

L2 ANSWER 60 OF 60 CAPLUS COPYRIGHT 2003 ACS
TI The major low-molecular-weight heat shock protein in chloroplasts shows antigenic conservation among diverse higher plant species

=> D L2 IBIB TI SO AU ABS 8 11 20 22

L2 ANSWER 8 OF 60 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:571225 CAPLUS
DOCUMENT NUMBER: 137:153567
TITLE: Priming biologically active antibody responses against
an isolated, conformational viral epitope by DNA vaccination
AUTHOR(S): Riedl, Petra; El Kholy, Shereen; Reimann, Jorg; Schirmbeck, Reinhold
CORPORATE SOURCE: Institute of Medical Microbiology and Immunology, University of Ulm, Ulm, D-89081, Germany
SOURCE: Journal of Immunology (2002), 169(3), 1251-1260
CODEN: JOIMA3; ISSN: 0022-1767
PUBLISHER: American Association of Immunologists
DOCUMENT TYPE: Journal
LANGUAGE: English
TI Priming biologically active antibody responses against an isolated, conformational viral epitope by DNA vaccination
SO Journal of Immunology (2002), 169(3), 1251-1260
CODEN: JOIMA3; ISSN: 0022-1767
AU Riedl, Petra; El Kholy, Shereen; Reimann, Jorg; Schirmbeck, Reinhold
AB The immunodominant, conformational "a" determinant of hepatitis B surface Ag (HBsAg) elicits Ab responses. The authors selectively expressed the Ab-binding, glycosylated, native a determinant (residue 120-147) of HBsAg is a **fusion protein** contg. C-terminally the HBsAg fragment SII (residue 80-180) fused to a SV40 T-Ag-derived hsp73-binding 77 aa (T77) or non-**hsp**-binding 60 aa (T60) N terminus. A DNA vaccine encoding non-**hsp**-binding secreted T60-SII **fusion protein**-stimulated murine Ab responses with a similar efficacy as a DNA vaccine encoding the secreted, native, small HBsAg. A DNA vaccine encoding hsp73-binding, intracellular T77-SII fusion protein-stimulated murine Ab responses less efficiently but comparable to a DNA vaccine encoding the intracellular, native, large HBsAg. HBsAg-specific Abs elicited by either the T60-SII-expressing or the T77-SII-expressing DNA vaccine suppressed HBsAg antigenemia in transgenic mice that produce HBsAg from a transgene in the liver; hence, a biol. active B cell response cross-reacting with the native, viral envelope epitope was primed by both DNA vaccine constructs. HBsAg-specific Ab and CTL responses were coprimed when an S20-50 fragment (contg. the immunodominant, Ld-binding epitope S28-39) of HBsAg was fused C-terminally to the pCI/T77-SII sequence (pCI/T77-SII-Ld DNA vaccine). Chimeric, polyepitope DNA vaccines encoding conformational, Ab-binding epitopes and MHC class I-binding epitopes can thus efficiently deliver antigenic information to different compartments of the immune system in an immunogenic way.
REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 11 OF 60 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:41632 CAPLUS
DOCUMENT NUMBER: 136:117361
TITLE: Stress proteins as immunomodulators and in vaccines as

fusion proteins with antigens
INVENTOR(S): Young, Richard A.
PATENT ASSIGNEE(S): Whitehead Institute for Biomedical Research, USA
SOURCE: U.S., 29 pp., Cont.-in-part of WO9429459.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6338952	B1	20020115	US 1994-336251	19941103
WO 8912455	A1	19891228	WO 1989-US2619	19890615
W: JP				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
WO 9429459	A1	19941222	WO 1994-US6362	19940606
W: CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1221488	A1	20020710	EP 2001-203598	19940606
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
US 6335183	B1	20020101	US 1995-461722	19950605
US 6482614	B1	20021119	US 1999-468041	19991221

PRIORITY APPLN. INFO.:

US 1988-207298	B2	19880615
US 1989-366581	B1	19890615
WO 1989-US2619	A2	19890615
US 1991-804632	B2	19911209
US 1993-73381	B2	19930604
WO 1994-US6362	A2	19940606
EP 1994-919384	A3	19940606
US 1994-336251	B1	19941103
US 1995-461720	B1	19950605

TI Stress proteins as immunomodulators and in vaccines as fusion proteins with antigens
SO U.S., 29 pp., Cont.-in-part of WO9429459.
CODEN: USXXAM
IN Young, Richard A.
AB The present invention relates to stress proteins and methods of modulating an individual's immune response. In particular, it relates to the use of such stress proteins in immune therapy and prophylaxis, which results in an induction or enhancement of an individual's immune response and as an immunotherapeutic agent which results in a decrease of an individual's immune response to his or her own cells. The present invention also relates to compns. comprising a stress protein joined to another component, such as a fusion protein in which a stress protein is fused to an antigen. Further, the present invention relates to a method of generating antibodies to a substance using a conjugate comprised of a stress protein joined to the substance.
REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 20 OF 60 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:711033 CAPLUS
DOCUMENT NUMBER: 133:251261
TITLE: Fusion protein for immunoprophyaxis and immunotherapy of venereal disease and cancer

INVENTOR(S): Zhou, Guoqing
PATENT ASSIGNEE(S): Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 5 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1248631	A	20000329	CN 1998-112264	19980924

PRIORITY APPLN. INFO.: CN 1998-112264 19980924

TI Fusion protein for immunoprophyaxis and immunotherapy of venereal disease and cancer

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 5 pp.
CODEN: CNXXEV

IN Zhou, Guoqing

AB The fusion protein is whole or part heat shock protein of Mycobacterium bovis var BCG connected with whole or part human papillary virus (HPV) antigen such as early-expressed proteins, and its N-terminal may be modified by several histidines. The fusion protein may be expressed in E. coli, yeast, or plant. The protein sequence of the recombinant **fusion protein** **hsp**-E7 is presented. The fusion protein is used for immunol. prevention and treatment of fig wart, tumor and cancer induced by human papillary virus.

L2 ANSWER 22 OF 60 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:598583 CAPLUS
DOCUMENT NUMBER: 134:176965
TITLE: Immunotherapy of a human papillomavirus (HPV) type 16 E7-expressing tumour by administration of fusion protein comprising Mycobacterium bovis bacille calmette-guerin (BCG) hsp65 and HPV16 E7
AUTHOR(S): Chu, N. R.; Wu, H. B.; Wu, T.-C.; Boux, L. J.; Siegel, M. I.; Mizzen, L. A.
CORPORATE SOURCE: StressGen Biotechnologies Corporation, Victoria, BC, V8Z 4B9, Can.
SOURCE: Clinical and Experimental Immunology (2000), 121(2), 216-225
CODEN: CEXIAL; ISSN: 0009-9104
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

TI Immunotherapy of a human papillomavirus (HPV) type 16 E7-expressing tumour by administration of fusion protein comprising Mycobacterium bovis bacille calmette-guerin (BCG) hsp65 and HPV16 E7

SO Clinical and Experimental Immunology (2000), 121(2), 216-225
CODEN: CEXIAL; ISSN: 0009-9104

AU Chu, N. R.; Wu, H. B.; Wu, T.-C.; Boux, L. J.; Siegel, M. I.; Mizzen, L. A.

AB Human papillomavirus type 16 (HPV16) infection has been linked to the development of cervical and anal dysplasia and cancer. One hallmark of persistent infection is the synthesis of the viral E7 protein in cervical epithelial cells. The expression of E7 in dysplastic and transformed cells and its recognition by the immune system as a foreign antigen make

it an ideal target for immunotherapy. Utilizing the E7-expressing murine tumor cell line, TC-1, as a model of cervical carcinoma, an immunotherapy based on the administration of an adjuvant-free **fusion protein** comprising Mycobacterium bovis BCG heat shock protein (**hsp**)65 linked to HPV16 E7 (hspE7) has been developed. The data show that prophylactic immunization with hspE7 protects mice against challenge with TC-1 cells and that these tumor-free animals are also protected against re-challenge with TC-1 cells. In addn., therapeutic immunization with hspE7 induces regression of palpable tumors, confers protection against tumor re-challenge and is assocd. with long-term survival (> 253 days). In vitro analyses indicated that immunization with hspE7 leads to the induction of a Th1-like cell-mediated immune response based on the pattern of secreted cytokines and the presence of cytolytic activity following antigenic recall. In vivo studies using mice with targeted mutations in CD8 or MHC class II or depleted of CD8 or CD4 lymphocyte subsets demonstrate that tumor regression following therapeutic hspE7 immunization is CD8-dependent and CD4-independent. These studies extend previous observations on the induction of cytotoxic T lymphocytes by **hsp fusion proteins** and are consistent with the clin. application of hspE7 as an immunotherapy for human cervical and anal dysplasia and cancer.

REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> log off
ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:y
STN INTERNATIONAL LOGOFF AT 13:13:49 ON 28 MAR 2003

Access DB# 87795

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: BOOQUNL Examiner #: 78206 Date: 03/05/03

Art Unit: 1698 Phone Number 30 5-1695 Serial Number: 10/053,907

Mail Box and Bldg/Room Location: 8E07 Results Format Preferred (circle): PAPER DISK E-MAIL

8E12 MEJ

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Method and compositions for protection bovine viral diseases

Inventors (please provide full names): Subramaniam Srikumaran

Earliest Priority Filing Date: Nov. 03. 2000

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

please search claims 1-21 directed to a method for eliciting an immune response by using a composition comprising a heat shock protein and a peptide listed in claim 4. wherein the heat shock protein listed in claim 9.

Thanks.

Point of Contact:
Mona Smith
Technical Information Specialist
CM1 6A01
Tel: 308-3278

****

STAFF USE ONLY

Searcher: M. SMITH

Searcher Phone #:

Searcher Location:

Date Searcher Picked Up: 2/28/03

Date Completed: 3/19/03

Searcher Prep & Review Time: 60

Clerical Prep Time:

Online Time: 60

Type of Search

NA Sequence (#)

AA Sequence (#)

Structure (#)

Bibliographic X

Litigation

Fulltext

Patent Family

Other

Vendors and cost where applicable

STN

Dialog

Questel/Orbit

Dr.Link

Lexis/Nexis

Sequence Systems

WWW/Internet

Other (specify)

PTO-1590 (8-01)

WEST Search History

DATE: Friday, March 28, 2003

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI; THES=ASSIGNEE; PLUR=YES; OP=ADJ			
L11	L10 and L6	0	L11
L10	" heat shock protein"	3374	L10
L9	L6 and heat adj shock adj protein	0	L9
L8	L6 and heat adj shork adj protein	0	L8
L7	L6 and hsp	0	L7
L6	bovine adj vaccine	45	L6
L5	bovin adj vaccine	0	L5
L4	L3 and hsp	4	L4
L3	bovine adj viral adj antigen	4	L3
L2	hSP and antigen	1547	L2
L1	Srikumaran S.in.	3	L1

END OF SEARCH HISTORY

NCBI Entrez Protein

PubMed | Nucleotide | Protein | Genome | Structure | PMC | Taxonomy | OMIM | Books

Search Protein for BoLA-A20 Preview Go Clear

Limits | Preview/Index | **History** | Clipboard | Details

Entrez Protein

- Search History will be lost after one hour of inactivity.
- To combine searches use # before search number, e.g., #2 AND #6.
- Search numbers may not be continuous; all searches are represented.

Search	Most Recent Queries	Time	Result
#14	Search **BoLA-A20**	12:46:41	11
#8	Search **BoLA-A11**	12:44:03	5

Clear History

Related resources

Revised: August 5, 2002.

NCBI PubMed National Library of Medicine NLM

PubMed | Nucleotide | Protein | Genome | Structure | PMC | Taxonomy | OMIM | Books

Search PubMed for Srikumaran S | Preview | Go | Clear

Limits | Preview/Index | **History** | Clipboard | Details

- Search History will be lost after one hour of inactivity.
- To combine searches use # before search number, e.g., #2 AND #6.
- Search numbers may not be continuous; all searches are represented.

Entrez PubMed

Search	Most Recent Queries	Time	Result
#4	**Related Articles** for **PubMed** (Select **11163665**)	12:09:39	290
#2	Search **Srikumaran S**	12:08:59	48
#1	Search **Srikumara S**	12:05:07	4123311

PubMed Services

Clear History

Related Resources

NCBI PubMed National Library of Medicine NLM

PubMed | Nucleotide | Protein | Genome | Structure | PMC | Taxonomy | OMIM | Books

Search PubMed for BoLA-A11 Preview Go

Clear

Limits | Preview/Index | **History** | Clipboard | Details

- Search History will be lost after one hour of inactivity.
- To combine searches use # before search number, e.g., #2 AND #6.
- Search numbers may not be continuous; all searches are represented.

Entrez PubMed

PubMed Services

Search	Most Recent Queries	Time	Result
#6	Search **BoLA-A11**	12:42:12	7
#5	Search **Bovine lymphocyte antigen**	12:40:01	57
#4	**Related Articles** for **PubMed** (Select **11163665**)	12:09:39	290
#2	Search **Srikumaran S**	12:08:59	48
#1	Search **Srikumara S**	12:05:07	4123311

Clear History

Related Resources

Write to the Help Desk
NCBI | NLM | NIH
Department of Health & Human Services
Freedom of Information Act | Disclaimer

☐ **1:** I46030. MHC class I antig...[gi:2118744] BLink, Domains, Links

```
LOCUS       I46030                  361 aa            linear   MAM 21-JAN-2000
DEFINITION  MHC class I antigen - bovine.
ACCESSION   I46030
VERSION     I46030  GI:2118744
DBSOURCE    pir: locus I46030;

            summary: #length 361 #molecular-weight 41030 #checksum 8649
            ;
            genetic: #gene LA-A11 #introns 25/1; 115/1; 207/1; 299/1; 334/1;
            345/1; 361/1
            ;
            superfamily: class I histocompatibility antigen; immunoglobulin
            homology
            ;
            PIR dates: 16-Aug-1996 #sequence_revision 16-Aug-1996 #text_change
            21-Jan-2000
            .
KEYWORDS    .
SOURCE      Bos taurus (cow)
  ORGANISM  Bos taurus
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
            Bovidae; Bovinae; Bos.
REFERENCE   1  (residues 1 to 361)
  AUTHORS   Sawhney,S.M., Hasima,N.N., Glass,E.J., al-Murrani,S.W.,
            Nichani,A.K., Spooner,R.L., Williams,J.L. and Russell,G.C.
  TITLE     Transfection, expression, and DNA sequence of a gene encoding a
            BoLA-A11 antigen
  JOURNAL   Immunogenetics 41 (4), 246-250 (1995)
  MEDLINE   95197189
   PUBMED   7890327
FEATURES             Location/Qualifiers
     source          1..361
                     /organism="Bos taurus"
                     /db_xref="taxon:9913"
     Protein         1..361
                     /product="MHC class I antigen"
     Region          220..285
                     /region_name="domain"
                     /note="immunoglobulin homology #label IMM"
ORIGIN
        1 mrvmrprtll lllsrvlvlt etlagshslr yfytavsrpg lgeprfiavg yvddtqftrf
       61 dsdapnprde prvpwmeqeg peywdrntri ykdtaqifra nlntalgyyn qseagshtfq
      121 emygcyvgpd grlllgfmqf aydgrdyial nedlrswtaa dtaaqitkrk weaageaerq
      181 rnylegrcve glrrylengk dtllradppk ahvthhpisd revtlrcwal gfypeeislt
      241 wqhegedqtq dmelvetrps gdgtfqkwaa lvvpsgeeqr ytcrvqhegl qepltlrwep
      301 pqtsfltmgi ivglvllvva vvagaviwrk krsgekgriy tqaassdsaq gsdvsltvpk
      361 v
//
```

☐ 1: CAA66250. MHC class I, heav...[gi:1321698] BLink, Domains, Links

```
LOCUS       CAA66250                 336 aa            linear   MAM 02-DEC-1996
DEFINITION  MHC class I, heavy chain [Bos taurus].
ACCESSION   CAA66250
VERSION     CAA66250.1  GI:1321698
DBSOURCE    embl locus BTMHC2, accession X97645.1
            embl locus BTMHC3, accession X97646.1
            embl locus BTMHC45, accession X97647.1
            embl locus BTMHC6, accession X97648.1
            embl locus BTMHC78, accession X97649.1
KEYWORDS    .
SOURCE      Bos taurus (cow)
  ORGANISM  Bos taurus
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
            Bovidae; Bovinae; Bos.
REFERENCE   1
  AUTHORS   Russell,G.C., Oliver,R.A. and Sawhney,S.M.
  TITLE     Cloning, transfection, and DNA sequence of a second gene from the
            BoLA-A11 haplotype
  JOURNAL   Immunogenetics 44 (4), 315-318 (1996)
  MEDLINE   96337924
   PUBMED   8753865
REFERENCE   2  (residues 1 to 336)
  AUTHORS   Russell,G.C.
  TITLE     Direct Submission
  JOURNAL   Submitted (26-APR-1996) G.C. Russell, Roslin Institute, Roslin,
            Midlothian, EH25 9PS, UK
FEATURES             Location/Qualifiers
     source          1..336
                     /organism="Bos taurus"
                     /isolate="animal 10769"
                     /sub_species="Holstein-friesian"
                     /db_xref="taxon:9913"
                     /chromosome="23"
                     /map="q21-qter Map Units (mu)"
                     /clone="pBoLA-4"
                     /haplotype="BoLA-A10 /A11"
                     /cell_type="peripheral blood monocytes"
                     /clone_lib="EMBL clone 4.2"
                     /dev_stage="adult"
                     /germline
     Protein         1..336
                     /product="MHC class I, heavy chain"
     CDS             1..336
                     /gene="MHC class I"
                     /coded_by="join(X97645.1:2..271,X97646.1:50..325,
                     X97647.1:67..342,X97647.1:459..563,X97648.1:46..78,
                     X97649.1:37..84,X97649.1:247..251)"
                     /label=mhc_cds
                     /db_xref="SPTREMBL:Q30287"
ORIGIN
        1 shslryfltr vsrpdlgepr ylevgyvdnt qfvrfdsdar nprmeprarw veqegpeywd
```

☐1: CAA57992. MHC class I antig...[gi:833780] BLink, Domains, Links

```
LOCUS       CAA57992                361 aa            linear   MAM 06-JUL-1995
DEFINITION  MHC class I antigen [Bos taurus].
ACCESSION   CAA57992
VERSION     CAA57992.1  GI:833780
DBSOURCE    embl locus BTLAA111, accession X82671.1
            embl locus BTLAA112, accession X82672.1
            embl locus BTLAA113, accession X82673.1
            embl locus BTLAA114, accession X82674.1
            embl locus BTLAA116, accession X82675.1
KEYWORDS    .
SOURCE      Bos taurus (cow)
  ORGANISM  Bos taurus
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
            Bovidae; Bovinae; Bos.
REFERENCE   1
  AUTHORS   Sawhney,S.M., Hasima,N.N., Glass,E.J., al-Murrani,S.W.,
            Nichani,A.K., Spooner,R.L., Williams,J.L. and Russell,G.C.
  TITLE     Transfection, expression, and DNA sequence of a gene encoding a
            BoLA-A11 antigen
  JOURNAL   Immunogenetics 41 (4), 246-250 (1995)
  MEDLINE   95197189
   PUBMED   7890327
REFERENCE   2  (residues 1 to 361)
  AUTHORS   Sawhney,S.M.S.
  TITLE     Direct Submission
  JOURNAL   Submitted (14-NOV-1994) S.M.S. Sawhney, Roslin Institute, Roslin,
            Midlothian, EH25 9PS, UK
FEATURES             Location/Qualifiers
     source          1..361
                     /organism="Bos taurus"
                     /strain="Holstein-Friesian"
                     /isolate="animal 10769"
                     /db_xref="taxon:9913"
                     /chromosome="23"
                     /map="23q21-qter"
                     /clone="EMBL3 clone 19.1"
                     /sub_clone="plasmid pBoLA-19"
                     /haplotype="BoLA-A10/A11"
                     /cell_type="lymphocyte"
                     /tissue_type="peripheral blood"
                     /clone_lib="EMBL3"
                     /dev_stage="adult"
                     /note="allele A11"
     Protein         1..361
                     /product="MHC class I antigen"
     sig_peptide     1..24
     CDS             1..361
                     /gene="LA-A11"
                     /coded_by="join(X82671.1:938..1010,X82672.1:9..278,
                     X82673.1:10..285,X82674.1:10..285,X82674.1:403..507,
                     X82675.1:129..161,X82675.1:301..348,X82675.1:514..518)"
```

```
                     /label=BtCDS
                     /db_xref="SPTREMBL:Q95477"
ORIGIN
        1 mrvmrprtll lllsrvlvlt etlagshslr yfytavsrpg lgeprfiavg yvddtqftrf
       61 dsdapnprde prvpwmeqeg peywdrntri ykdtaqifra nlntalgyyn qseagshtfq
      121 emygcyvgpd grlllgfmqf aydgrdyial nedlrswtaa dtaaqitkrk weaageaerq
      181 rnylegrcve glrrylengk dtllradppk ahvthhpisd revtlrcwal gfypeeislt
      241 wqhegedqtq dmelvetrps gdgtfqkwaa lvvpsgeeqr ytcrvqhegl qepltlrwep
      301 pqtsfltmgi ivglvllvva vvagaviwrk krsgekgriy tqaassdsaq gsdvsltvpk
      361 v
//
```

Revised: August 5, 2002.

```
       61 qntrnskgaa qtfrvdlntl rgyynqseag shtiqamygc dvgpdgrflr gyrqdaydgr
      121 dyialnedlr swtaadtaaq itkrkweeag aaegernyle gtcvewlrry lengkdallr
      181 adppkahvth hpisdrevtl rcwalgfype eisltwqreg edqtqdmelv etrpsgdgsf
      241 qkwaalvvps geeqrytcrv qhkglqeplt liweppqpsv pimgivvglv lllvavvaga
      301 viwrkkcsge kgqtytqaas sdsdqgsdvs rtvpkv
//
```

Revised: August 5, 2002.

1: Vaccine 2001 Jan 8;19(11-12):1425-34 Related Articles, Links

Heat shock protein-peptide complexes elicit cytotoxic T-lymphocyte and antibody responses specific for bovine herpesvirus 1.

Navaratnam M, Deshpande MS, Hariharan MJ, Zatechka DS Jr, Srikumaran S.

Department of Veterinary and Biomedical Sciences, University of Nebraska-Lincoln, Lincoln, NE 68583-0905, USA.

Epitope-based vaccines offer a promising alternative to modified live vaccines against viruses such as herpesviruses which give rise to latent infections, and induce immunosuppression. The success of this approach depends on the ability to direct the CTL epitopes to the MHC class I antigen presentation pathway. The objective of this study was to evaluate the potential of the heat shock protein gp96 in this regard. A group of BALB/c mice was injected with three murine CTL epitope peptides of bovine herpesvirus 1 (BHV-1) complexed in vitro with bovine gp96 (gp96-peptides). Three other groups were injected with either the peptides alone, gp96 alone, or the peptides complexed with BSA. CTLs from mice immunized with gp96-peptides specifically lysed the peptide-pulsed syngeneic targets, as well as BHV-1-infected targets. CTLs from the other three groups did not lyse these targets. To further evaluate the utility of this approach, groups of BALB/c mice were immunized with gp96 isolated from a syngeneic cell-line transduced with BHV-1 glycoprotein D (BC-gD). Mice immunized with gp96 from BC-gD developed CTLs, as well as Abs specific for BHV-1 gD. Furthermore, in vitro stimulation of naive bovine PBMCs with gp96 from BC-gD resulted in CTLs specific for BHV-1. These results demonstrate the feasibility of using gp96-peptide complexes isolated from cells expressing BHV-1 proteins to induce CTL and Ab responses against BHV-1, without the prior knowledge of the CTL and Ab epitope sequences.

PMID: 11163665 [PubMed - indexed for MEDLINE]